

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

Claims 1-54. (Canceled)

55. (Currently Amended) A combination of distinct molecules, comprising
(a) a first molecule comprising an amino acid sequence ~~represented by a~~
~~sequence selected from the group consisting of at least 5 amino acids of an HCV~~
~~polyprotein located in the region [[of]]corresponding to~~ amino acids 1-20 of SEQ ID
NO:23an HCV polyprotein, at least 5 amino acids located in the region
~~[[of]]corresponding to~~ amino acids 7-26 of SEQ ID NO:23an HCV polyprotein, at least 5
amino acids located in the region ~~[[of]]corresponding to~~ amino acids 8-18 of SEQ ID
NO:23an HCV polyprotein, at least 5 amino acids located in the region
~~[[of]]corresponding to~~ amino acids 13-32 of SEQ ID NO:23an HCV polyprotein, at least
5 amino acids located in the region ~~[[of]]corresponding to~~ amino acids 37-56 of SEQ ID
NO:23an HCV polyprotein, at least 5 amino acids located in the region
~~[[of]]corresponding to~~ amino acids 49-68 of SEQ ID NO:23an HCV polyprotein, at least
5 amino acids located in the region ~~[[of]]corresponding to~~ amino acids 61-80 of SEQ ID
NO:23an HCV polyprotein, at least 5 amino acids located in the region
~~[[of]]corresponding to~~ amino acids 73-92 of SEQ ID NO:23an HCV polyprotein, at least
5 amino acids of SEQ ID NO: 1, at least 5 amino acids of SEQ ID NO: 2, at least 5
amino acids of SEQ ID NO: 3, at least 5 amino acids of SEQ ID NO: 4, at least 5 amino
acids of SEQ ID NO: 5, at least 5 amino acids of SEQ ID NO: 6, at least 5 amino acids
of SEQ ID NO: 7, and at least 5 amino acids of SEQ ID NO: 8; and

(b) a second molecule comprising an amino acid sequence selected from the group consisting of at least 5 amino acids located in the region [[of]]corresponding to amino acids 1688-1707 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1694-1713 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1706-1725 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1712-1731 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1718-1737 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1724-1743 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 1730-1749 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids of SEQ ID NO: 9, at least 5 amino acids of SEQ ID NO: 10, at least 5 amino acids of SEQ ID NO: 11, at least 5 amino acids of SEQ ID NO: 12, at least 5 amino acids of SEQ ID NO: 13, at least 5 amino acids of SEQ ID NO: 14 and at least 5 amino acids of SEQ ID NO: 15, and

(c) a third molecule comprising an amino acid sequence selected from the group consisting of at least 5 amino acids located in the region [[of]]corresponding to amino acids 2263-2282 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 2275-2294 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 2287-2306 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids

DeLeys et al
Appl. No. 10/822,871
Attny. Ref.: 2551-141
Amendment
September 23, 2010

located in the region [[of]]corresponding to amino acids 2299-2318 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids located in the region [[of]]corresponding to amino acids 2311-2330 of SEQ ID NO:23an HCV polyprotein, at least 5 amino acids of SEQ ID NO: 16, at least 5 amino acids of SEQ ID NO: 17, at least 5 amino acids of SEQ ID NO: 18, at least 5 amino acids of SEQ ID NO: 19, and at least 5 amino acids of SEQ ID NO: 20,

wherein said molecules of (a), (b) and (c) are each separate molecules from one another, wherein said molecules of (a), (b) and (c) are each different from one another and wherein said molecules are selected from the group consisting of peptides and polypeptides, and

said combination further including at least one molecule selected from the group consisting of

SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO:15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 7 to 26 of SEQ ID NO:23the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 13 to 32 of SEQ ID NO:23the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of amino acids 37 to 56 of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by amino acids 37 to 56 of SEQ ID NO:23,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 49 to 68 of SEQ ID NO:23the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of amino acids 61 to 80 of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by amino acids 61 to 80 of SEQ ID NO:23,

a peptide consisting of amino acids 73 to 92 of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by amino acids 73 to 92 of SEQ ID NO:23,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 1688 to 1707 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 1694 to 1713 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 1706 to 1725 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids located of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV in the region corresponding to consisting of amino acids 1712 to 1731 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 to at most 12 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological

DeLeys et al
Appl. No. 10/822,871
Attny. Ref.: 2551-141
Amendment
September 23, 2010

competition with at least one strain of HCV located in the region corresponding to
consisting of amino acids 1718 to 1737 of SEQ ID NO:23the HCV polyprotein of an
HCV isolate which is capable of providing for immunological competition with at least
one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV
isolate which is capable of providing for immunological competition with at least one
strain of HCV located in the region corresponding to consisting of amino acids 1724 to
1743 of SEQ ID NO:23the HCV polyprotein of an HCV isolate which is capable of
providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 to at most 12 amino acids of the HCV
polyprotein of an HCV isolate which is capable of providing for immunological
competition with at least one strain of HCV located in the region corresponding to
consisting of amino acids 1730 to 1749 of SEQ ID NO:23the HCV polyprotein of an
HCV isolate which is capable of providing for immunological competition with at least
one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV
isolate which is capable of providing for immunological competition with at least one
strain of HCV located in the region corresponding to consisting of amino acids 2287 to
2306 of SEQ ID NO:23the HCV polyprotein of an HCV isolate which is capable of
providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV
isolate which is capable of providing for immunological competition with at least one

DeLeys et al
Appl. No. 10/822,871
Attny. Ref.: 2551-141
Amendment
September 23, 2010

strain of HCV located in the region corresponding to consisting of amino acids 2299 to 2318 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV located in the region corresponding to consisting of amino acids 2311 to 2330 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of SEQ ID NO:2,

a peptide consisting of at least 5 amino acids of SEQ ID NO:4,

a peptide consisting of at least 5, 6, 8, 12 or 20 amino acids of amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by 37 to 56 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of SEQ ID NO:6,

a peptide consisting of at least 5, 6, 8, 12 or 20 amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by amino acids 61 to 80 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5, 6, 8, 12 or 20 amino acids of amino acids of the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV corresponding to the region represented by 73 to 92 of SEQ ID NO:23 the HCV polyprotein of an HCV isolate which is capable of providing for immunological competition with at least one strain of HCV,

a peptide consisting of at least 5 amino acids of SEQ ID NO:9,

a peptide consisting of at least 5 amino acids of SEQ ID NO:10,

a peptide consisting of at least 5 amino acids of SEQ ID NO:11,

a peptide consisting of at least 5 amino acids of SEQ ID NO:12,

a peptide consisting of at least 5 to at most 12 amino acids of SEQ ID NO:13,

a peptide consisting of at least 5 amino acids of SEQ ID NO:14,

a peptide consisting of at least 5 to at most 12 amino acids of SEQ ID NO:15,

a peptide consisting of at least 5 amino acids of SEQ ID NO: 18,

a peptide consisting of at least 5 amino acids of SEQ ID NO: 19, and

a peptide consisting of at least 5 amino acids of SEQ ID NO: 20.

Claims 56-58. (Cancelled)

59. (Previously Presented) A combination according to claim 55, wherein said molecules comprising at least 5 amino acids are individually produced by recombinant expression or chemical synthesis.

60. (Previously Presented) A combination according to claim 55, wherein one or more of said first, second, or third molecules comprises a fusion polypeptide.

Claim 61. (Cancelled)

62. (Previously Presented) A combination according to claim 55, wherein the combination is packaged into a kit further comprising control reagents for detecting antibodies to hepatitis C virus (HCV) in a human body component suspected of containing said antibodies.

Claims 63-67. (Cancelled)

68. (Previously Presented) A combination of claim 55, wherein at least one of said molecules comprises synthetic peptides or polypeptides.

69. (Previously Presented) A combination of claim 68, wherein at least two of said molecules comprises synthetic peptides or polypeptides.

70. (Previously Presented) A combination of claim 69, wherein at least three of said molecules comprises synthetic peptides or polypeptides.

71. (Currently Amended) A combination of molecules according to any one of claims 55 or 68-70,

wherein at least one of said first, second and third molecules is selected from the group consisting of:

a first molecule consisting of amino acids 1-92 of ~~an HCV polyprotein or amino acids 1-92 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1-92 of SEQ ID NO:23;~~

a second molecule consisting of amino acids 1688-1749 of ~~an HCV polyprotein or amino acids 1688-1749 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1688-1749 of SEQ ID NO: 23;~~ and

a third molecule consisting of amino acids only 2263-2330 of an HCV polyprotein or amino acids 2263-2330 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 2263-2330 of SEQ ID NO: 23.

72. (Currently Amended) A combination of molecules according to any one of claims 55 or 68-70, wherein at least two of said first, second and third molecules is selected from the group consisting of:

a first molecule consisting of amino acids 1-92 of an HCV polyprotein or amino acids 1-92 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1-92 of SEQ ID NO: 23;

a second molecule consisting of amino acids 1688-1749 of an HCV polyprotein or amino acids 1688-1749 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1688-1749 of SEQ ID NO: 23; and

a third molecule consisting of amino acids 2263-2330 of an HCV polyprotein or amino acids 2263-2330 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 2263-2330 of SEQ ID NO: 23.

73. (Currently Amended) A combination of molecules according to any one of claims 55 or 68-70, wherein:

said first molecule consisting of amino acids 1-92 of an HCV polyprotein or amino acids 1-92 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1-92 of SEQ ID NO: 23;

said second molecule consisting of amino acids 1688-1749 of an HCV polyprotein or amino acids 1688-1749 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 1688-1749 of SEQ ID NO: 23; and

said third molecule consisting of amino acids 2263-2330 of an HCV polyprotein or amino acids 2263-2330 of SEQ ID NO: 23 or consisting of amino acids of an HCV polyprotein corresponding to the region represented by amino acids 2263-2330 of SEQ ID NO: 23.

74. (Withdrawn) A method for making a kit for detecting human antibodies that bind to HCV amino acids, comprising combining the combination of claim 71 with a support suitable for detecting whether antibodies bind to the molecules of said combination.

75. (Withdrawn) A method for making a kit for detecting human antibodies that bind to HCV amino acids, comprising combining the combination of claim 72 with a support suitable for detecting whether antibodies bind to the molecules of said combination.

76. (Withdrawn) A method for making a kit for detecting human antibodies that bind to HCV amino acids, comprising combining the combination of claim 73 with a

DeLeys et al
Appl. No. 10/822,871
Attny. Ref.: 2551-141
Amendment
September 23, 2010

support suitable for detecting whether antibodies bind to the molecules of said combination.

Claims 77-80. (Cancelled)

81. (Currently Amended) A combination of any one of claims 55 or 68-70, wherein

said at least 5 amino acids of said first molecule are selected from the amino acids of SEQ ID NO: 2, of SEQ ID NO: 4, of SEQ ID NO: 6, or from the amino acids[[,]] located in the region of an HCV polyprotein corresponding to amino acids 7-26 of SEQ ID NO:23an HCV polyprotein, located in the region of an HCV polyprotein corresponding to amino acids 13-32 of SEQ ID NO:23an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to [[of]] amino acids 49-68 of SEQ ID NO:23an HCV polyprotein, of SEQ ID NO:2, of SEQ ID NO:4 or of SEQ ID NO:6;

said at least 5 amino acids of said second molecule are selected from the amino acids or SEQ ID NO:10, or from the amino acids located in the region of an HCV polyprotein corresponding to amino acids 1694-1713 of SEQ ID NO:23an HCV polyprotein or of SEQ ID NO:10; and

wherein said at least 5 amino acids of said third molecule are selected from amino acids of SEQ ID NO:19, or from the amino acids located in the region of an HCV polyprotein corresponding to amino acids 2299-2318 of SEQ ID NO:23an HCV polyprotein or of SEQ ID NO:19.

82. (Currently Amended) A combination of any one of claims 55 or 68-70, wherein

said at least 5 amino acids of said first molecule are selected from the amino acids of SEQ ID NO: 1, of SEQ ID NO: 2, of SEQ ID NO: 6, or from the amino acids[[],] located in the region of an HCV polyprotein corresponding to amino acids 1-20 SEQ ID NO:23~~of an HCV polyprotein~~, located in the region of an HCV polyprotein corresponding to amino acids 7-26 of SEQ ID NO:23~~an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to~~ amino acids 49-68 of SEQ ID NO:23~~an HCV polyprotein, of SEQ ID NO:1, of SEQ ID NO:2 or of SEQ ID NO:6;~~

said at least 5 amino acids of said second molecule are selected from the amino acids of SEQ ID NO: 10, of SEQ ID NO: 12, or from the amino acids[[],] located in the region of an HCV polyprotein corresponding to amino acids 1694-1713 of SEQ ID NO:23~~an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to~~ amino acids 1712-1731 of SEQ ID NO:23~~an HCV polyprotein, of SEQ ID NO:10, or of SEQ ID NO:12; and~~

wherein said at least 5 amino acids of said third molecule are selected from the amino acids of SEQ ID NO: 17, of SEQ ID NO: 19, or from the amino acids [[],] located in the region of an HCV polyprotein corresponding to amino acids 2275-2294 of SEQ ID NO:23~~an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to~~ amino acids 2299-2318 of SEQ ID NO:23~~an HCV polyprotein, of SEQ ID NO:17, or of SEQ ID NO:19.~~

83. (Currently Amended) A combination of any one of claims 55 or 68-70,
wherein

said at least 5 amino acids of said first molecule are selected from the amino acids of SEQ ID NO: 2, of SEQ ID NO: 4, of SEQ ID NO: 5, of SEQ ID NO: 6, or from the amino acids[[,]] located in the region of an HCV polyprotein corresponding to amino acids 7-26 of SEQ ID NO:23an HCV polyprotein, located in the region of an HCV polyprotein corresponding to amino acids 13-32 of SEQ ID NO:23an HCV polyprotein, located in the region of an HCV polyprotein corresponding to amino acids 37-56 of SEQ ID NO:23an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to amino acids 49-68 of SEQ ID NO:23an HCV polyprotein, of SEQ ID NO: 2, of SEQ ID NO:4, of SEQ ID NO:5 and of SEQ ID NO:6;

said at least 5 amino acids of said second molecule are selected from the amino acids of SEQ ID NO: 9, of SEQ ID NO: 12, or from the amino acids located in the region of an HCV polyprotein corresponding to amino acids 1688-1707 of SEQ ID NO:23an HCV polyprotein, or located in the region of an HCV polyprotein corresponding to amino acids 1712-1731 of SEQ ID NO:23an HCV polyprotein, of SEQ ID NO:9, or of SEQ ID NO:12; and

wherein said at least 5 amino acids of said third molecule are selected from the amino acids of SEQ ID NO: 17, of SEQ ID NO: 19, or from the amino acids[[,]] located in the region of an HCV polyprotein corresponding to amino acids 2275-2294 of SEQ ID NO:23, or located in the region of amino acids 2299-2318 of SEQ ID NO:23an HCV polyprotein, of SEQ ID NO:17, or of SEQ ID NO:19.

84. (Currently Amended) A combination of claim 81, wherein

said at least 5 amino acids of said first molecule are selected from the amino acids of SEQ ID NO: 2, or from the amino acids located in the region of an HCV polyprotein corresponding to, located in the region of amino acids 7-26 of SEQ ID NO:23an HCV polyprotein, or of SEQ ID NO:2.

85. (Previously Presented) A combination of claim 55, wherein said combination coats a well of an immunoassay plate.

86. (Previously Presented) A combination of any one of claims 68-70 , wherein said combination coats a well of an immunoassay plate.

87. (Previously Presented) A combination of claim 81, wherein said combination coats a well of an immunoassay plate.

88. (Previously Presented) A combination of claim 82, wherein said combination coats a well of an immunoassay plate.

89. (Previously Presented) A combination of claim 83, wherein said combination coats a well of an immunoassay plate.

90. (Currently Amended) A combination of any one of claims 55 or 68-70, wherein said combination is bound to an immunoassay strip.

91. (Previously Presented) A combination of claim 82, wherein said combination is bound to an immunoassay strip.

92. (Previously Presented) A combination of claim 82, wherein said combination is bound to an immunoassay strip.

93. (Previously Presented) A combination of claim 83, wherein said combination is bound to an immunoassay strip.